MINUTES

CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE MEETING OF January 25, 1996

The first meeting of the CTCDC in 1996 was held in the Caltrans District 11 Auditorium, at 2829 Juan Street, in the city of San Diego, on Thursday, January 25, 1996.

Chairman Dick Folkers opened the meeting at 9:08 a.m. with the introduction of members and guests. The Chairman thanked District 11 on behalf of the Committee.

The following members, alternates, and guests were in attendance:

ATTENDEES Members (Voting)	ORGANIZATION	TELEPHONE
Dick Folkers Chairman	League of California Cities, City of Palm Desert	(619) 346-0611
Wayne Tanda Vice Chairman	League of California Cities, City of San Jose	(408) 267-4945
Merry Banks	California State Automobile Association, San Fransico	(415) 565-2297
Bruce Carter	County Supervisors Association of California, Shasta County	(916) 225-5661
Capt. Joe Farrow	California Highway Patrol, Sacramento	(916) 657-7222
Jack Kletzman	California Department of Transportation, Sacramento	(916) 654-4715
John Wallo	County Supervisors Association of California, San Luis Obispo County	(805) 781-4466
Jack Kletzman Secretary	California Department of Transportation, Sacramento	(916) 654-4715

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ATTENDEES	ORGANIZATION	TELEPHONE
Dick Backus	Auto Club of Southern California	(213) 741-4532
Rick Blunden	Caltrans, Sacramento	(916) 653-0036
Scott Broady	City of San Francisco	(415) 554-2326
Bob Brow	Sacramento County	(916) 366- 2226
Fred Erbe	Caltrans, Los Angeles	(213) 897-4656
Jerry Fitch	Sacramento County	(916) 366- 2227
Peter Floodman	Light Guard System	(707) 838-0745
Michael Harrison	Light Guard System	(707) 838-0745
Norm Hawkins	Hawkins Traffic Safety Supply	(510) 525-4040
Gary Kevorkian	Caltrans, Los Angeles	(213) 897-0312
Dwight Ku	California State Automobile Association, Sacramento	(916) 443-2577
Conrad Lapinski	City of Irvine	(714) 724-7365
Doug Moss	Sacramento County	(916) 366- 2227
Hank Mohle	City of Murrieta	(909) 698-1040 x242
Alan Oswald	City of San Juan Capistrano	(714) 443-6356
Walter Paltz	Caltrans, San Diego	(619) 688-3224
Harry Parker	Harry Parker Inc.	(310) 826-7089
Chris Ramstead	Los Angeles County	(818) 458-5908
Hamid Rufaat	Caltrans, Los Angeles	(213) 897-0343
Frank Tecca	City of Lake Elsinore	(909) 674-3124
Robert Zeigler	Marin County	(415) 499-6336

MEMBERSHIP

The Committee elected Mr. Wayne Tanda as the new chairman and Ms. Mary Banks as the new vice chairman. The term is two years. Outgoing chairman Mr. Dick Folkers remains on the Committee. Captain Joe Farrow has been appointed to replace Captain Don Follett as the representative for the California Highway Patrol. Lieutenant Pat Burnett has been appointed to replace Lieutenant Shawn Watts as the alternate representative for that organization.

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Rick Blunden suggested that Item 95-4, page 25, second paragraph, referring to Section 11202 of the CVC be corrected to Section 21202. MOTION: By John Wallo, second by Mary Banks, to adopt the minutes, as amended, of the Oakland meeting, held on September 21, 1995. Motion carried 6-0.

[In a subsequent conversation between the newly elected Chairman and the Executive Secretary, it was acknowledged that both the Committee and the Executive Secretary have shared authority to table items. The Committee needs the ability to discuss tabling an item when there is a divergence of opinion about the action. The Executive Secretary needs the ability to table an item to produce a more accurate agenda. Sometimes the Committee intends to continue an item and the Executive Secretary is subsequently informed, prior to publishing the agenda, that the item will not be available. Under these circumstances the minutes show an item as "continued" but the agenda will list that item as "tabled." Permission to experiment, when granted by the Committee, is normally listed as a completed item, because the Committee took an action. The item is later tabled by the Executive Secretary because it is unknown when the results of the experiment will be available.]

92-18 GOLF CART SYMBOL SIGNS

Chairman Folkers reported that the City of Palm Desert had been involved with the golf cart program since 1993. At that time Palm Desert was the only city authorized for a five year trial with a report to the Legislature due every year. The legislation was modified last year to allow any city to participate.

92-18 GOLF CART SYMBOL SIGNS (continued.)

Chairman Folkers described the interim status of the program. There were no reported golf cart collisions. There are nearly twenty centerline miles of facilities in place. Current circulation pattern allows access to most public facilities, shopping, and recreation areas. There will be approximately fifty centerline miles in the ultimate system. A golf cart charging station at city Hall will be complete by the end of 1996. The project is out to bid. Golf cart parking spaces are included in major shopping centers. There are approximately 200 permitted golf carts. FHWA Traffic Control Devices Committee has accepted the application for approval of a golf cart symbol. A decision is anticipated in June 1996.

Chairman Folkers, explained that the Vehicle Code only allows golf carts one mile from the golf course, on streets with 25 mph speed limits, where AB 110, Golf Carts and Transportation Plans expands the use of golf carts to other streets. Rick Blunden noted that this legislation also requires the CHP to prepare a report to evaluate the transportation plan. Dwight Ku said the legislation allowed all cities to participate.

ACTION: Item continued.

93-5 BIKE LANE DELINEATION ACROSS FREEWAY RAMPS

Jack Kletzman presented the Committee with a schematic developed by the Caltrans Office of Geometric Design Standards. This design differed from the one presented in the agenda in that an arrow had been added to the BIKE ROUTE (G93) sign and the BIKE ROUTE (G93) and arrow (G43) signs, beneath the PEDESTRIANS, BICYCLES, MOTOR-DRIVEN CYCLES PROHIBITED (R44) sign, were eliminated.

Rick Blunden, executive secretary for CBAC, recalled that a year ago that Carla Sutliff from the Caltrans' Office of Project Planning and Design presented a geometric drawing that was not suitable for adoption into the Traffic Manual. The current proposal evolved from the earlier drawing and has CBAC's approval.

93-5 BIKE LANE DELINEATION ACROSS FREEWAY RAMPS (continued.)

Rick Blunden explained that normally a 6" BIKE LANE stripe is dashed as the BIKE LANE stripe approaches the intersection. In this case the BIKE LANE stripe is ended about 100' before the ramp and is replaced with a 4" shoulder stripe. That stripe is continued as a standard stripe as it would at a typical ramp. Blunden explained there was no gap for bicyclists in the 8" gore "vee" stripe because bicyclists routinely cross gore stripes even when there is no BIKE LANE.

Rick Blunden said that the original request from the County of Sacramento was for a BIKE LANE across the structure. The proposed Caltrans design recommendation is to end the BIKE LANE prior to the structure and to cross the structure with a BIKE ROUTE. Wayne Tanda expressed concern about not using a simpler standard and the need for local agencies, when by ordinance they adopt bike lanes, to produce a more detailed map.

Rick Blunden agreed that local agencies would have to show the breaks in BIKE LANEs on their maps. He explained that the rationale for changing from BIKE LANE to BIKE ROUTE was so that the inexperienced bicyclist would not be attracted across the structure in a BIKE LANE. This design is thought to decrease agency exposure to liability. At this time there is no standard, and this proposal seems to be the best compromise to which the supporting groups can agree. The text does include provision for a local agency to carry a BIKE LANE across the structure. The proposal represents a step forward in that it provides a standard where none exists.

Rick Blunden said that Caltrans legal staff has said they normally do not lose cases when a facility conforms to a design standard. Having this proposed standard should not increase our exposure to litigation because we are doing all we can. Some of our people do believe it may increase liability. Chairman Folkers said that it has been his experience that publishing a new standard does cause more legal problems.

Chairman Folkers expressed concern that cyclists may be subject to citation by crossing the gore "vee" stripe. Rick Blunden reiterated that bicyclists routinely cross gore stripes knowing that the law normally requires them to stay to the right as far as practicable. The gore "vee" stripe does not mean that cyclists must move to the left and enter the traffic lane.

93-5 BIKE LANE DELINEATION ACROSS FREEWAY RAMPS (continued.)

Wayne Tanda feels that if four or five feet of shoulder width are available, the BIKE LANE should continue through the interchange. If there were insufficient room for a BIKE LANE, then a BIKE ROUTE should be used. It doesn't appear reasonable to switch to a BIKE ROUTE when there is room for a BIKE LANE.

Bob Brow recalled that originally the request for a standard came about when Sacramento County was rebuilding Hazel Avenue across Route 50. Hazel Avenue had existing BIKE LANEs and uncontrolled ramps. The basic problem was how to cross the ramps. Brow feels the liability will be assigned to the owner of the facility. If a local agency works under Caltrans permit, Brow believes the liability becomes Caltrans'. He expressed concern about the ability of striping crews to repaint a 4" stripe accurately enough to keep it a 4" stripe.

Chris Ramstead concurred that the main problem was how to get the bicyclist across the ramp. He suggested skip striping to let the bicyclist know something was going to happen and that the bicyclist is not as well protected as he was in the solid striped portion of the BIKE LANE. The gore striping is not a problem, because everybody recognizes that bicyclists will cross the gore point. Ramstead said the schematic of the off-ramp needs to be clearer. The off-ramp appears headed into the BIKE LANE. Skip striping would help at this location too. He does not feel that an enhanced level of safety is achieved by switching from a BIKE LANE to a BIKE ROUTE and then back to a BIKE LANE.

Rick Blunden said that one of the best examples of bike lanes on over crossings is in the city of Davis at Childs Boulevard. It's not typical in that traffic volume is low and the structure is huge. About three months ago, in an attempt to get bicyclists to more closely follow the rules of the road, the City re-striped the pavement. Blunden observed that there was very little difference in behavior of the bicyclists, based on pavement markings. Bicyclists are going to go where they want and Blunden professed ignorance as to whether a BIKE LANE will actually provide any kind of protection. The proposed standard is the simplest and safest design based on current information. Blunden said that CBAC and Caltrans feel comfortable with the compromise standard and requested the Committee to recommend approval of the standard.

93-5 BIKE LANE DELINEATION ACROSS FREEWAY RAMPS (continued.)

Bob Brow said the Hazel Avenue Over crossing was typical. The County drops the BIKE LANE across the structure. There is no 4" stripe. He doubts that there is a 5' shoulder. Wayne Tanda reiterated his lack of understanding of why the BIKE LANE wouldn't continue across a structure if a 5' shoulder existed. He feels the proposed standard makes sense only if there were no 5' shoulder. Brow said the difference between a 4" and 6" stripe is not perceptible to most people and if any line were to be carried across a structure it should be the 6" line. Brow maintains the real problem is carrying bike traffic across the ramps, not on the structure itself.

Rick Blunden, in answer to the question on how to treat over crossings with inadequate shoulders, explained that the standard was primarily for new construction and that the 4" stripe would be carried across the structure. Blunden maintained that such striping is in compliance for BIKE ROUTE standards. It is not in compliance with note 3 of the proposed standard, but the proposal doesn't apply to existing structures.

Gary Kevorkian noted that if the proposed standard were adopted, and there were sub-standard existing conditions, the deviation would normally be handled with a fact sheet under permit. The permit process exists because this standard is essentially for work within Caltrans right-of-way. Chairman Folkers said that local agencies don't normally have fact sheets on their own projects. He suggested that maybe in the future that would have to change, and local agencies would have to document deviations from standard. Jack Kletzman said that the legal advice he had received, was to draw up a fact sheet acknowledging the standard, and either document why that standard could not be met, or why by professional judgment, deviation from the standard was necessary.

Wayne Tanda questioned the rational behind using a 400' distance to the end of the BIKE LANE. Many of the blocks in San Jose, where the standard could apply, are less than 400'. The consensus of the Committee was to recommend Caltrans take another look at the proposal in view of the Committee's comments.

ACTION: Item continued.

94-3 STOP SIGNS AT MID BLOCK

Gary Foxen could not attend the meeting.

ACTION: Item continued.

94-9 SIGNAL PHASE SIGN (R54)

Wes Pringle said that as a result of some litigation involving an R54, he and Harry Parker became concerned about the sign's meaning. Pringle said he never used such a sign. He believes that in earlier days when left turn phases were introduced to the public, the sign might have had some application. In today's electronics, where there are so many phases, he questions the need for such a sign. He feels the sign is a warning rather than regulatory. He questions whether the motorist understands the sign, it is not in the MUTCD, and he wondered what message is conveyed to the motorist. The sign was not the focus of the litigation, it was the orientation of the sign.

Wayne Tanda said the Committee agreed that the current policy with regard to the use of the sign was not appropriate. Caltrans rewrote the policy and at the last meeting, although the Committee voted to approve the change, but the plurality was not sufficient to make the change. That leaves the original policy. Tanda recommended the Committee take action by either improving the policy, or eliminating the sign. Chairman Folkers said he had done more research on the sign and agrees with Tanda.

Jack Kletzman recalled that the original item agenda was to delete the R54 sign. That motion was defeated. Kletzman agreed with the Committee's concern about the inappropriate policy and rewrote the policy. He then brought a new agenda item to the Committee to revise the policy. That is the issue that is now before the Committee. Wayne Tanda feels the sign is just confusing, it does not seem to fit any of the guidelines prescribed for an appropriate traffic control device, and should therefore be deleted. Tanda made a motion to delete the sign. Kletzman felt this action was inappropriate because the item concerned approval of a new policy and that issue had already been decided.

94-9 SIGNAL PHASE SIGN (R54) (continued.)

MOTION: By Wayne Tanda, second by Joe Wallo, to delete the R54 sign and if approved to phase out the sign over an appropriate period of time. Motion carried 4-2 with one abstention. (Not a sufficient plurality to adopt a change in policy.)

Wayne Tanda requested that the item be continued and asked for an explanation of why the sign should be continued. Jack Kletzman said that the need for the sign had been explained to the Committee at previous meetings. The purpose of the sign is to warn motorists of an unexpected traffic movement. There are, for example, instances in Sacramento where high speed traffic from freeway ramps enters city streets and is unseen by motorists waiting at an intersection. If a motorist jumps the signal and gets into the intersection, he will be in serious trouble. Motorists understand the sign indicates that something unusual is going to happen and they may not get the next green light. They become more cautious. The sign works and there is nothing to replace it. No alternative sign has been proposed. The sign is not replaced by advances in signal technology. Kletzman agrees with the Committee that the sign itself is not very explanatory, but motorists do get the message. The sign is used in Los Angeles, San Francisco, and Sacramento. Bruce Carter said the sign is not used in Redding, but it should be. Chris Ramstead said that the County of Los Angeles supports deletion of the sign.

Wes Pringle said that, for the uses stated, it should be a warning sign. Jack Kletzman said he would agree. Chairman Folkers suggested that Caltrans re-draw the sign as a warning sign and bring it back. Kletzman asked if the Committee would support the sign, if it were made a warning sign. The consensus of the Committee was yes. Chairman Folkers said that the City of Palm Desert had a problem and resolved it by using arrows for protected movements. Bruce Carter said he prefers the use of arrows in Redding, but without the arrows needs something.

Jack Kletzman suggested changing the sign to a warning sign with the proposed policy. Bruce Carter concurred. Wayne Tanda asked Wes Pringle, if the sign were changed to a warning sign and the policy revised to "It may be used at signalized intersections where the signal indication provides more than two distinct traffic movements and the traffic movement may not be readily apparent to the motorist.", would that make sense? Pringle said he liked that better, but didn't think it applied to the arrow problem.

94-9 SIGNAL PHASE SIGN (R54) (continued.)

Jack Kletzman concurred saying that the usage he saw had nothing to do with arrow or ball signal indications. These signs were used at intersections where there was a specific movement reserved for light rail, where one of the legs formed a peculiar angle and had its own movement, and where a high speed off-ramp dropped traffic on to a frontage road near an intersection. Usually motorists, unfamiliar with the intersection, would be unaware of these conditions because they could not see the movement coming. Motorists probably don't understand the sign, but they correctly interpret the message to be cautious. If all motorists would wait for the green, we would not need the sign. But they don't. The sign is a may condition and is used at the discretion of the engineer.

Harry Parker said the R54 sign had never been in the MUTCD. The Caltrans Traffic Manual had the sign in 1960 with the policy, "Use the sign to indicate an intersection where the signals provide three distinct traffic movements. Do not use where there is a left turn lane and an arrow indication for the left-turn movement." In 1987 the policy was changed to "may be used where the signal indications provide three or four distinct traffic movements. Do not use where there is a left turn lane and a phase controlling the left turn lane, timed concurrently with more than one other phases." Parker believes this introduces a degree of ambiguity. He suggests that if the sign is a warning, it should be yellow and diamond shape. He doesn't believe anyone advocates this, but it illustrates the fundamental ambiguity of the message and the way the sign is used. [Mr. Parker was not present for the previous discussion.]

Harry Parker does not believe that the sign solves problems which are unique to California. He contends that if the sign is used to convey the message that we don't want motorists to enter the intersection, then we need the sign at all intersections. The proposed change in policy represents a clear improvement over the existing policy, but Parker suggests that removing the sign from the Traffic Manual is the best solution. Upon finding out that the proposed motion was to change the sign to a warning sign, Parker felt that it would be more logical, but he hoped no one would use the sign.

94-9 SIGNAL PHASE SIGN (R54) (continued.)

Hank Mohle asked if Wes Pringle or Harry Parker had any suggestions for Bruce Carter's problem of not having left turn green arrow signal indications in Redding. Parker responded that the green arrow is the symbol that should be conveyed. Here is the opposite problem from the use proposed for the R54 sign. This is where the motorist needs to be encouraged to enter the intersection. The R54 cannot be used for both.

<u>MOTION</u>: By Jack Kletzman, second by Bruce Carter, to change the R54 sign from regulatory to warning and adopt the proposed policy. Motion carried 7-0.

ACTION: Item completed.

94-10 PEDESTRIAN SIGNAL HEAD

Jerry Fitch said Sacramento County has about 500 signals and most of them have the normal pedestrian signal head with the walking figure and the red hand showing solid for "don't walk" and flashing for "continue to walk." Because of public complaints concerning the meaning of the symbols, the County has been looking for something better. The County developed a pedestrian signal head with the same symbols, but added a count down number, which shows the number of seconds left for the flashing red hand plus pedestrian clearance time. Providing a visible number may provide a clearer message of the meaning of the flashing hand. The hope is that the count down would dispel the erroneous notion that the flashing red hand means pedestrians should not be in the intersection. Some pedestrians feel there is insufficient walk time to cross the street because the WALK turns to a flashing red hand indication halfway across the street.

Jerry Fitch recalled that the Committee granted the County permission to test a few of these pedestrian signal heads with count down indications. Fitch, quoting from the interim report said that 20-33% of the pedestrians did not understand normal pedestrian indications. After the normal pedestrian signal head was replaced with the count down signal head, 82-100% thought they understood the pedestrian indications.

94-10 PEDESTRIAN SIGNAL HEAD (continued.)

Jerry Fitch said the County had made an effort to educate the public by visiting schools and demonstrating currently approved pedestrian signal heads. He feels that this is one of the few traffic control devices that require an educational campaign to be understood. It would be nice to use something that was more self explanatory. Fitch requested Committee approval to expand the experiment by five intersections. The existing experimental device has some minor deviations from Caltrans specifications for pedestrian signal head design. Both the walking figure and hand are an outline instead of solid, and the sizes are slightly different. If the Committee approves the expansion, ten new signal heads will be purchased and the County will work with the manufacturer to manufacture heads more closely conforming to existing specifications.

Because of the difficulties associated with demonstrating an actual pedestrian signal head, Jerry Fitch showed a video tape of the devices in use. Fitch said the indication could be seen 160-170' beyond the curb, so that the head could be used for very wide intersections. There is some dimming from the sun, but that is not any different from existing devices. The red digits were what the manufacturer had available. ADA requirements would be the same as at existing intersections, wheel chair ramps and sound signals for the visually impaired, where appropriate. If a pedestrian leaves the curb at the last tenth of a second of the WALK indication, there should be ample time to cross the street. Fitch said that in the expanded study, the survey questions would be revised to get a clearer picture of the pedestrian's perception. Fitch was requested to obtain data concerning the pedestrian's comprehension of the count down and to include motorists in the survey.

Bruce Carter recalled a similar device being attempted in southern California. Harry Parker concurred, asking if the County had done a literature search to establish the disposition of the previous project. Jerry Fitch said he would look into the matter.

Fred Erbe said the Caltrans Statewide Traffic Signal Operations Committee feels the proposed signal head is more understandable by the pedestrian, but there is grave concern for motorist jumping the signal and for young pedestrians try to race the count down.

94-10 PEDESTRIAN SIGNAL HEAD (continued.)

Capt. Joe Farrow said he was concerned about motorists using the count down to anticipate the signal change. He questioned the validity of the sample size, with only 64 people surveyed, used to conclude 100% of the people under the age of 13 have a complete understanding of the proposed device. Farrow feels the count down would work well for some pedestrians, but represent a challenge for others to get across the street. This establishes an enforcement problem. A youth under the age of 13, seeing 25 seconds left, would know there is sufficient time to cross the street twice. But he would be in violations of CVC 21456, which says that, once the hand starts to flash, pedestrians can no longer enter the intersection.

Bruce Carter concurred but acknowledged that the same problems exist with current traffic control devices. He said the Federal Government is conducting a big study concerning why people ignore traffic control devices.

Wayne Tanda asked what was expected from five additional test intersections. Jerry Fitch responded they would watch ped usage and for people poaching during the count down period. Tanda asked if there will be sufficient resources to gather data at six locations as opposed to one. Tanda feels it is preferable to get a sufficient quantity of data at one location, rather than insufficient data at more locations. Bruce Carter felt that, given adequate resources, a lot more data could be obtained with an expanded experiment, in a given period of time. Chairman Folkers envisioned a time lag for the new installations to come on line. During this time the County would vigorously pursue the comments made, and analyze whether more installations were needed. Fitch responded that they haven't seen motorists speeding up to make the signal now, the expansion would allow a deeper investigation over a wider variety of intersections. The existing test intersection is in a coordinated system and the County would like to examine a non-coordinated intersection where the side street time isn't closely controlled. The County was also looking for intersections with a history of pedestrian accidents. Chairman Folkers said the motion did not require the County to expand the experiment to six intersections. Expansion is at the discretion of the County.

94-10 PEDESTRIAN SIGNAL HEAD (continued.)

John Wallo recommended the use of pre-stamped mail back questionnaires for motorists and pedestrians. Bruce Carter suggested conducting speed surveys, prior to and after installation of the proposed heads, to determine if there had been a significant change. An unidentified member of the audience suggested that speed surveys be conducted mechanically over 24 hour periods and at various distances from the intersection. Carter warned about mechanical devices getting touchy and not picking up data at low speeds.

An unidentified member of the audience said the City of Los Angeles once louvered the pedestrian DON'T WALK from motorists vision. But there were other problems with using louvers. There are many intersections where the vehicle yellow is not part of the pedestrian protection time, such as where there are red-turn / green arrow overlaps.

<u>MOTION</u>: By Bruce Carter, second by Jack Kletzman, to expand the experiment to a mazimum of five additional intersections, subject to the comments made by the Committee. Motion carried 7-0.

ACTION: Item completed.

95-9 LEFT TURN LANE PROTECTED/PERMISSIVE SIGN

Frank Tecca said that with the advent of long mast arms, states have been trending toward using lane control signs. California seems to be hesitant in doing this. California uses pavement markings. Tecca contends that California's approach to multi-lane streets is to put the direction signs at the sidewalk. Motorists making left turns on streets 100-200' wide cannot signs on the far right. He said pavement markings work fine in southern California, but not where there is snow and rain. Internally illuminated overhead signs have become popular.

Frank Tecca credits Caltrans for recognizing overhead lane control signs are growing in importance. The R73-1 and R73-2 [arrow turn symbol signs] are standard signs. His objection to these signs are that they are to be placed to the right of the left turn signal. There are a lot of locations where the left turn signal is over the number two lane. Tecca does not expect the motorist to be able to find the left turn directional guidance, when it is placed at the extreme right.

Where there are protected-permissive signals, the left side of the signal has arrows for the turn lane, Caltrans reasonably adopted standards that put the protected-permissive signal head on the barrier stripe. Half the signal head is meant for the left turn pocket and half the signal is for the through lane. The through lane traffic is expected to recognize the signal is meant for them. Then a LEFT TURN YIELD ON GREEN (R73-7) is added on the right of the signal, meant for the left turn lane. Tecca feels it is poor practice to have a left turn signal, a through lane signal, and then a left turn message. Tecca suggested that California conform to practices of Oregon, Washington, and Alaska in use of lane control. He advocates placing the LEFT TURN YIELD ON GREEN (R73-7) above the left turn pocket.

In the 1980s Frank Tecca converted 55 intersections to protected-permissive left turns in the City of Anchorage. Many of the lanes had lane control signs because, in Alaska, lanes are usually covered with snow and dirt, and pavement markings cannot be relied upon. The only decision was whether the signs should be reflective or internally illuminated. Tecca hadn't combined the lane control sign with the message to yield on a green ball signal.

Frank Tecca supports the practice of using a sign where there is a protected-permissive cluster head. He said that Los Angeles doesn't agree that a sign is needed. Despite a lot of data being collected, no one has determined whether a sign is necessary. This is one of the issues Tecca wants to study.

The intersection to be examined in the experiment is a six phase intersection, with protected left turns in the north-south direction, and green ball indications in the east-west direction. Frank Tecca said he has accident data for the existing intersection. He proposes to erect a directional arrow with a YIELD ON (and green ball) sign in the center of the left turn lane and see how it functions with two phase. In a year or two, he intends to convert the signals to eight phase protected-permissive indications, leaving the signs in place.

Frank Tecca said his intent was not only to use light control signs and to put signs where they belong, but to determine if these signs influence the protected-permissive cluster head. He then requested the Committee to grant approval of permission to experiment on not more than five intersections in the City of Lake Elsinore.

Frank Tecca explained that the sign exhibited to the Committee came from Alaska and varied from current Caltrans standards. Caltrans dropped ONLY in front of the arrows for left turn pockets a long time ago. Whether or not there is a line across the sign is not significant for Tecca, but there is a line across some of the R73 series signs.

Jack Kletzman read the policy on the R73-7, "...The sign may be mounted either on a signal standard or overhead on a signal mast arm." Since there is no mention of putting the sign over on the right, is there a problem with the standard sign? Tecca responded that he uses the R73-7, but felt it was not sufficient when a positive lane control and a warning to yield on the green ball are needed at the same place. He said we now put R73-1 in the center of the left turn pocket and put the R73-7 to the right of the left turn signal head. Since both signs are for the motorist in the left turn pocket, Tecca proposes they be combined. The location of the R73-7 might be needed for another sign. Other States have adopted the policy that signal heads go on lane lines, and signs go over the center of the lane. That policy seems to have been adopted in California.

Wayne Tanda interpreted the letter from Tom Fox as saying, the R73-7 sign is unclear because of the wording YIELD ON GREEN. They are concerned about the protected-permissive green ball phase, when one motorist slows down to yield to traffic, and a trailing motorist does not slow down because they believe they are protected. Frank Tecca maintains the letter would have been clearer if the wording had said left-turn traffic instead of opposing traffic. Nevertheless, the CVC says a motorist can enter on green only after yielding to other traffic already in the intersection. That is what the sign says. [Tom Fox's letter concerned a five-section head simultaneously showing both a green arrow and ball. He recommended not lighting the ball on that particular head, and displaying the green ball on remaining signal heads of the intersection.]

Chris Ramstead said he believed the letter was referring to a split phased signal head simultaneously showing both the green left arrow and ball. The sign says yield on the green ball. The motorist making the left turn sees the arrow, ball, and sign. The problem occurs when the lead motorist heeds the sign and slows down. Ramstead said L.A. County hadn't experienced that problem. His concern is about a motorist going through on the permissive signal. So far they haven't experienced a significant problem, but it remains a fear.

Wayne Tanda suggested making the YIELD ON GREEN sign visible only when the ball is green and the arrow absent. The sign would be black when not in use. This could be done electronically and would separate the message from the green arrow. Chairman Folkers said that an intent of the experiment was to eliminate the need for two signs on the mast arm. Folkers was concerned about the weight of another sign on the longer mast arms now in use. Frank Tecca said they had hung internally illuminated signs at the end of mast arms without incident. The YIELD ON GREEN sign is intended for the left turn motorist when the arrow is absent. That is why he wants to test with two phase intersections initially.

Hank Mohle thinks that educating the public on their responsibilities in making a safe left turn on a green ball is one of our challenges. Intersections are more efficient if the green arrow can be illuminated. He supports finding a vendor who could supply a sign such as the one described by Wayne Tanda.

Fred Erbe thought that an internally illuminated sign will have trouble being kept in operation in windy areas. There would have to be an advance in circuit technology to allow such testing. Hamid Rufaat opposed the idea of a black sign and recommended a red cross when not in use.

Wayne Tanda clarified that the experiment would entail the use of a non-standard sign and the placement of the sign. Frank Tecca responded that according to the policy read by Jack Kletzman there is no non-standard placement of the sign. He perceives the problem as the practice of placing the R73-7 to the right of the head.

<u>MOTION:</u> By Bruce Carter, second by Joe Farrow, to allow the City of Lake Elsinore to experiment with the proposed sign for up to five intersections. Motion carried 7-0.

ACTION: Item completed.

95-11 DIAMOND LANE, WARNING SIGNS

Jack Kletzman explained to the Committee that there had been some changes to the proposal outlined in the agenda. The first change is that the diamond symbol now appears in the upper lane instead of the lower lane. That is the usual position of the diamond lane. A note allows the diamond to be shown in either lane, and the sign to be used on either the left or right side. Several plates had been added to include conditions where the diamond lane is in force. These conditions would be a time and days of the week restriction, where metered as indicated by a blinking yellow light, or where the diamond lane is continually in force. These conditions match the alternatives described with regulatory signing. Kletzman thanked Wayne Tanda for his assistance in improving the initially proposed symbol signs.

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95-11 DIAMOND LANE, WARNING SIGNS (continued.)

Jack Kletzman said he received a FAX, on the morning of the CTCDC meeting, from Robert Cady of the FHWA. Cady suggested consideration for locations where traffic can also move straight ahead. He recommended some revisions to handle this situation.

Robert Cady also contends that most trapped vehicle problems don't occur for a right turn movement, they occur where there is a left turn movement. The problem is generally caused by too much traffic entering from the opposing side of the ramp. He suggested, when left turn movements have difficulty forcing their way into a mixed flow lane of the on-ramp, a regulatory sign should be placed for opposing traffic, prohibiting right turns on red. He also recommended the use of queuing detectors on the ramp, as a last resort, to keep limited storage available for turning vehicles. This would prevent overloading the storage lane.

Jack Kletzman thought these suggestions had merit and wanted time to study them. He requested the item be continued.

ACTION: Item continued.

95-12 SYMBOL SIGNS, TRUCK ENTERING ROAD & FALLING ROCKS

Jack Kletzman explained that "falling rocks" symbol sign had been approved at the last meeting. The "truck entering road" symbol sign had been revised and was now being brought back to the Committee for its consideration. The Committee had some reservations about the previous submittal because the truck was shown in elevation and the road was in plan view. Notes were added to allow the sign to be used for either side of the road. Plates are used to explain whether the trucks are crossing or entering the main road.

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95-12 SYMBOL SIGNS, TRUCK ENTERING ROAD & FALLING ROCKS (continued.)

Jack Kletzman said there were comments from Caltrans' District 2, which had a different truck, with a plate saying NEXT 3 MILES. Kletzman found that less descriptive than the proposed sign. It does not distinguish whether the truck is entering or crossing the road, nor whether there are trucks for the next three miles. There was a second comment from

the U.S. Forest Service which shows an entering roadway. Kletzman doesn't view this as a

material improvement, though he appreciated receiving the comments.

Bruce Carter expressed concern about trucks crossing in both directions. Jack Kletzman recommended using one sign and the TRUCK CROSSING plate. Carter questioned the need for a mirror image. He recalled experiencing a similar problem with an airplane sign. The airplane was facing the wrong way from the arrow and it confused motorists. He feels

trying to show the direction of the truck sets an unfortunate precedent.

An unidentified member of the audience noted that the distinguishing factor is the plate. TRUCK ENTERING is entering and TRUCK CROSSING is crossing. The speaker had experience with trucks entering from the left side and he felt it was important to know which side the vehicles were coming from. He interpreted CROSSING to mean from both sides and ENTERING from one side, that side being depicted by the direction of the symbol. Chairman Folkers felt these subtleties would be lost on the motorist. He believes the motorist will interpret the sign to mean watch for trucks ahead. Bruce Carter agreed.

<u>MOTION:</u> By Jack Kletzman, second by John Wallo for recommending approval of the proposed truck entering road symbol sign. Motion carried 7-0.

ACTION: Item completed.

96-1 BIKE ROUTE SIGNS

Scott Broady said the City of San Francisco was seeking approval of the MUTCD M1-8 bike route number sign for use in California. He was also seeking approval of what is called the standard unique sign which is a similar sign, but with the top third reserved for an agency logo. The San Francisco Bicycle Advisory Committee and the Department of Parking and Traffic collaborated to establish a bike route network for the City of San Francisco. The network is part of the City's Transportation Element of its Master Plan adopted some time ago. The sign design has been approved by the San Francisco Bicycle Advisory Committee and the California Bicycle Advisory Committee last December. Broady believes this is the first numbered bike route system in California.

Scott Broady noted that the MUTCD M1-8 is a national standard and conforms to existing State standards in that the guide sign is white on green, and rectangular in shape. The MUTCD uses an oval shape. The bicycle symbol is the same as the State and MUTCD standard. The numbers would be State standard.

Scott Broady exhibited an example showing the Golden Gate bridge in the top third of the sign, which might be San Francisco's version of the standard unique sign. San Francisco's proposal follows MUTCD guidelines for bicycle route signs and markers. Current practice in California, calls for standard rectangular BICYCLE ROUTE (G93) signs. The MUTCD equivalent sign (D11-1) is intended for use where no unique designation of routes is desired. There is no equivalent California standard, but the MUTCD also has a marker (M1-8) to be used where it is desired to establish a unique identification for a State or local bicycle route. San Francisco's proposed standard unique sign is similar to the M1-8. Broady said that if the G93 sign were used, it would require an additional plate to designate the route number. He feels this would cause confusion and drive up the project cost.

Scott Broady recalled that CBAC was concerned that if unique bike route signs were adopted, every city would become a problem. To resolve this problem, a standard format was developed that reserved space at the top of the sign to customize the sign for any local jurisdiction. This uniqueness is also desirable to distinguish between a local bike route and a regional bike route. Bruce Carter felt this is similar to the litter pick up sign where all the logos are different but it is still viewed as a standard sign.

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96-1 BIKE ROUTE SIGNS (continued.)

An unidentified member of the audience pointed out that San Francisco is a charter city. The speaker thought that the City of San Francisco could do what they wanted, within the city limits, as long as it does not conflict with standards adopted by Caltrans. They could therefore, use a non-standard sign. Bruce Carter pointed out that not all standard signs were in the Traffic Manual and there were a lot of non-standard signs on the road. Jack Kletzman noted that the CVC Section 21401 said that no traffic device could be put in the street unless it was an approved device and Section 21400 said that the device must conform to approved standards by the Department of Transportation.

There was confusion over what action the Committee was being asked to take. Jack Kletzman said that the request was for sign approval, not for permission to experiment. Kletzman said that there was some opposition to adopting the sign, in that some felt these signs were unnecessary and there may be confusion between the bike route numbers and those on the State Highway System. It may not be significant enough to preclude adoption, but there will be some conversations about the propriety. He agreed to keep in touch with the City and inform them about how adoption was progressing.

Scott Broady said that the intent is to produce a map for distribution which keys into the bike route numbers. The routes will generally be the easiest and safest routes through a particular neighborhood.

MOTION: By Wayne Tanda, second by Bruce Carter to recommend approval of the MUTCD M1-8 sign and for the standard-unique version of that sign. Motion carried 6-0 with one abstention.

ACTION: Item completed.

96-2 UNEVEN PAVEMENT SIGN

Jack Kletzman said that there have been discussions about this proposed sign, which indicate that the sign has not reached sufficient consensus to be brought before the Committee. A similar sign had been brought before the Committee some years ago. He asked that the item be continued, but was willing to consider any comments made by the Committee.

John Wallo said the differential between the two lanes should be shown as vertical instead of the 45 shown. Wallo feels the vehicles shown are unclear as to the direction they are traveling. They could be traveling in the same direction or passing each other. The consensus of the Committee felt the sign would be more understandable if each car had only one figure. Members expressed support for such a sign.

ACTION: Item continued.

PUBLIC COMMENTS

Hank Mohle, referring to Section 11-06 of the Traffic Manual, requested clarification of a letter sent to him by Caltrans legal staff. He explained that he had written a letter to John Wallo asking clarification of that section because it was so general. The only specific comments in the section are that the city shall use red, yellow, green for vehicle indications and a raised hand and a walking man symbol for ped heads. Hank Mohle read the last paragraph of the letter he received from Caltrans. "It is true that the rules and regulations relating to the utilization of signs are more specific than those relating to signals. It would appear therefore that the rules and regulations are for more discretion in the area of signal implementation." Mole contends that Caltrans has every legal right to establish very specific rules for the design and operation of traffic signals. In the case of signs it is very specific and in the case of signals it is not. This also has implications with respect to LEDs. His letter to John Wallo focused on LEDs but it is really a broader question. Mohle requested clarification of the last paragraph in the letter from Gary Geren [Caltrans Legal / to Jim Borden [Caltrans Traffic Operations] dated September 29, 1995. As a city traffic engineer he interprets that to be specific in that, for example, he does not need to come to the CTCDC to get permission to use LED signals.

PUBLIC COMMENTS (continued.)

Chairman Folkers responded that any agency using LEDs should write the CTCDC for experimental approval, to cover themselves from a legal perspective, until a standard is established. Jack Kletzman said this was not only a State problem it was a national problem. He said Caltrans was studying both the amount of degradation in LEDs and the maximum allowable degradation for LEDs. He acknowledged that everyone is anxious to use LEDs because of the potential for lower power usage costs, but using LEDs cannot be sanctioned until appropriate standards have been developed.

Norm Hawkins said his firm manufacturers a lot of disabled parking signs. There is a fine of \$265 for violating a disabled parking stall. Hawkins said the signing being used does not conform to Caltrans standards. There are three signs approved for traffic control. Most signs are being enforced whether or not they are legitimate. He said the Office of State Architecture is responsible for creating the standards for parking. They do this by virtue of the fact that when the Office of State Architecture designs a building for the State, they specify the parking control standards. The public agency then puts that standard in the building code. Hawkins contends the standards cover some sixteen pages and is very poorly written. The three standard signs are clear. Hawkins asked cities and counties to replace existing non-standard signs with proper signs in their respective jurisdictions. In 1992 the code was changed to no longer say "handicapped." The Office of State Architecture told Hawkins their phone rang all week long as lawyers for various clients call to get a clarification of the Vehicle Code. Hawkins said the Vehicle Code says that any sign that doesn't conform to Caltrans standards should be taken down. The police officer who is writing the ticket should be taking the sign down.

Norm Hawkins said he gets a lot of calls concerning speed bumps. Hawkins said he had been informed the Committee determined that speed bumps were not a traffic control device. He requests the Committee reconsider its position. He feels it is important for local agencies to have a selections of effective traffic control devices to control the speed of traffic. As an example Hawkins said he sold the University of California at Davis 500 speed bumps. This is more that a local issue.

PUBLIC COMMENTS (continued.)

Wayne Tanda said that ITE is in the final process of developing guidelines for the use of speed bumps. The guidelines are expected to be completed this year. There has been a problem in Berkeley and ITE is handling that with a disclaimer. Tanda said the City of San Jose continues to use speed bumps. They are beginning to use photo radar as an alternative to speed bumps.

Norm Hawkins noticed orange guide signs in Caltrans construction projects. He would like that practice stopped because guide signs are supposed to be green and white. Hawkins also wanted to know when the metric system in California going to begin since the Federal Government is putting conversion on hold. Jack Kletzman clarified that Caltrans is proceeding to publish its standards in metric but there is no requirement to revise the sign legends. Kletzman said the last article he read said that States have until the year 2000 to convert their standards to metric and, even at that time, it may be reconsidered. Bruce Carter said there has been a letter issued by Director van Loben Sels telling all local agencies that Caltrans is putting out its manuals, plans, and specifications in metric and urging local agencies to do the same. Carter feels Caltrans doesn't want to be the only agency dealing with the contractors in metric.

OFF-AGENDA ITEMS

Wayne Tanda said ITE is in the final process of putting out purchase specifications for LEDs. This is an effort to bridge the gap between now and the development of an updated illumination specifications by the NCHRP. Tanda hopes to have the specification published in two months.

Wayne Tanda proposed an expanded meeting for the next regular meeting. The intent is to improve the effectiveness and efficiency of the CTCDC. Tanda is seeking to determine how the constituent members and Caltrans perceive the CTCDC's performance in terms of timeliness and thoroughness. There have been instances when matters have been brought before the Committee by vendors when they should not. There are also times when items are delayed because the proposer does not appear, either at the scheduled, or subsequent meetings.

OFF-AGENDA ITEMS (continued.)

Wayne Tanda proposes to establish a procedure of cycling back the rational when Caltrans rejects a CTCDC recommendation. Tanda envisions a workshop with members, alternates, and customers. He suggests bench marking to see what other States are doing in the process of approving traffic control devices.

Chairman Folkers concurred. Bruce Carter recalled that when he joined the Committee he was sent a list of activities and goals and he believes their are some things that the Committee has never done. He agrees with taking some time to examine how the Committee should function. Mary Banks thinks it would be helpful to examine how the Committee could be more effective. She told the Committee that the State of Nevada has a traffic control committee. This committee is not advisory, it is run by the Nevada DOT, and is an information sharing type of meeting. Committee activities include sharing solutions to problems, debating new proposals, vender exhibits, and dissemination of information. They meet on a quarterly basis. Joe Farrow and Jack Kletzman supported the proposed meeting. Kletzman expressed concern about whether key people would be available for the next meeting. John Wallo suggested coordinating the meeting with an upcoming ITE meeting in Fresno. Wayne Tanda announced his intention to send out a survey to ascertain the opinion of the cities of northern California and he recommended that other members of the CTCDC who had constituencies do the same.

The consensus of the Committee was to schedule a workshop to review CTCDC's performance and the intent of increasing the Committee's overall effectiveness and efficiency at the earliest opportunity.

ADJOURNMENT

MOTION: By Jack Kletzman, second by Joe Farrow for adjournment. Motion carried 7-0. The meeting was adjourned at 12:35 pm.